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MYOCARDIAL ISCHEMIA AND INFARCTION

C-TERMINAL PROVASOPRESSIN (COPEPTIN), MID-REGION PRO-ADRENOMEDULLIN (MR-PROADM) AND MID-REGION PRO-ATRIAL NATRIURETIC PEPTIDE (MR-PROANP) AS NOVEL PROGNOSTIC BIOMARKERS AFTER NON-ST ELEVATION ACUTE CORONARY SYNDROME: ANALYSIS FROM MERLIN TIMI-36

ACC Poster Contributions
Ernest N. Morial Convention Center, Hall F
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Session Title: Unstable Ischemic Syndrome -- Clinical: Biomarkers
Abstract Category: 2. Unstable Ischemic Syndrome—Clinical
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Background: Copeptin, MR-proADM, and MR-proANP are novel biomarkers of hemodynamic stress that have prognostic value in pts with heart failure (HF). We investigated the prognostic performance of these 3 biomarkers relative to established predictors in a large cohort with non-ST elevation acute coronary syndrome (NSTE-ACS).

Methods: We measured copeptin, MR-proADM, and MR-proANP at baseline in 4,282 pts with NSTE-ACS randomized to ranolazine or placebo in the MERLIN-TIMI 36 trial. Pts were followed for an average of 1 year. Cardiovascular death (CVD) and new or worsening HF were centrally adjudicated.

Results: High concentration (Q4 v. Q1-3) of each biomarker identified pts with an increased risk of CVD or HF at 12 months (Copeptin 13.2% v. 5.0%, p<0.001; MR-proADM 15.8% v. 4.1%, p<0.001; MR-proANP 17.7% v. 3.5%, p<0.001), as well as CVD and HF individually (Figure). After adjustment for important clinical covariates, each marker remained significantly associated with CVD and HF (Figure top row). Moreover, in a model that also included all 3 biomarkers plus BNP and troponin, a high concentration of each biomarker independently predicted an increased risk of CVD or HF (Copeptin HR 1.44, CI 1.12-1.83; MR-proADM HR 1.54, CI 1.16-2.04, and MR-proANP HR 1.67, CI 1.21-2.30), compared with BNP (HR 1.59, CI 1.15-2.20) with an increase in the c-statistic (p<0.001).

Conclusion: Copeptin, MR-proADM, and MR-proANP add to BNP, troponin, and clinical risk indicators for predicting CVD or HF in pts with NSTE-ACS.